S. HRG. 107–650

IMPROVED MANAGEMENT OF DEPARTMENT OF DEFENSE TEST AND EVALUATION FACILITIES

HEARING

BEFORE THE

SUBCOMMITTEE ON EMERGING THREATS AND CAPABILITIES

OF THE

COMMITTEE ON ARMED SERVICES UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

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MAY 21, 2002

IMPROVED MANAGEMENT OF DEPARTMENT OF DEFENSE TEST AND EVALUATION FACILITIES

TUESDAY, MAY 21, 2002

U.S. SENATE,
SUBCOMMITTEE ON EMERGING
THREATS AND CAPABILITIES,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:44 a.m. in room SR–232A, Russell Senate Office Building, Senator Mary L. Landrieu (chairman of the subcommittee) presiding.

Committee members present: Senators Landrieu, Levin, Bill Nelson, Bingaman, and Roberts.

Committee staff members present: David S. Lyles, staff director.

Majority staff members present: Daniel J. Cox, Jr., professional staff member; Kenneth M. Crosswait, professional staff member; Richard W. Fieldhouse, professional staff member; Peter K. Levine, general counsel; and Arun A. Seraphin, professional staff member.

Minority staff members present: Judith A. Ansley, Republican staff director; Edward H. Edens IV, professional staff member; Brian R. Green, professional staff member; William C. Greenwalt, professional staff member; Carolyn M. Hanna, professional staff member; Mary Alice A. Hayward, professional staff member; Ambrose R. Hock, professional staff member; and Thomas L. MacKenzie, professional staff member.

Staff assistants present: Dara R. Alpert and Leah C. Brewer.

Committee members' assistants present: Marshall A. Hevron and Jeffrey S. Wiener, assistants to Senator Landrieu; William K. Sutey, assistant to Senator Bill Nelson; John A. Bonsell, assistant to Senator Inhofe; George M. Bernier III, assistant to Senator Santorum; Robert Alan McCurry, assistant to Senator Roberts; Douglas Flanders, assistant to Senator Allard; James P. Dohoney, Jr., assistant to Senator Hutchinson; and Derek Maurer, assistant to Senator Bunning.

OPENING STATEMENT OF SENATOR MARY L. LANDRIEU

Senator LANDRIEU. Good morning. Our hearing will come to order on our test and evaluation (T&E) oversight. Let me begin by thanking all of our witnesses for being here this morning and thank my Ranking Member for his good work in support of this subcommittee and his leadership so ably on this subcommittee for many years.

I will get right into my opening statement. We have just one panel this morning. Both Senator Roberts and I will have opening statements, we will then hear from the four of you, and then go into a short round of questions. This is a very important subject matter to the both of us, and it was Senator Roberts' suggestion that we have this meeting to hear from the Department of Defense about the recommendations that I have made on test and evaluation. Our subcommittee is very interested in making sure that our test and evaluation process is what it should be, not just for the warfighter and for their safety, but for the taxpayers who are looking for a strong and smart military, and it is the goal of our subcommittee to help get us to that goal.

So because of that goal, this subcommittee 3 years ago initiated legislation requiring a task force to report on the state of the Department's test and evaluation facilities. That report, as you all know, because two of you were involved in processing it, in December 2000 found that the services had reduced their institutional funding of the Department's major test and evaluation ranges by about $1 billion since 1990. As a result of this inadequate funding the task force concluded, quote, "Testing is not being conducted adequately, and there is growing evidence that the acquisition system is not meeting expectations as far as delivering high-quality, reliable, and effective equipment to our forces."

Just to cite a few of the findings of that report, the recapitalization rate for the Department's T&E has reached 400 years. The aging T&E infrastructure increases the probability of failure in test support capabilities that could cause significant and costly schedule slippages. In recent years, 66 percent of the Air Force programs have stopped operational testing due to major systems or safety shortcomings, which was quite alarming.

Since 1996, approximately 80 percent of Army systems tested failed to achieve reliability requirements during operational testing. As a result, the Director concluded the acquisition process failed to deliver systems to the warfighter that meet reliability and effectiveness requirements, so obviously we have some work to do here. There are probably a number of ways that we could correct this deficiency, but if these deficiencies are acknowledged today, clearly the status quo is not going to do.

Today we will hear from two representatives of the Department of Defense, our Director of Operational Test and Evaluation (DOT&E), Mr. Christie, and from Mr. Jack Krings, the former Director of Operational Test Evaluation who played a key role in this task force.

I want to say that we welcome the Department's views on this proposed legislation, and we will do our best to address the legitimate concerns that you raise today. We want to make sure that we get this legislation right, or that if we acknowledge that these deficiencies exist, we actually come up with a way to significantly improve them.

At the same time, I want to say how strongly I share the views expressed by this report. As it says, we owe it to our men and women in uniform to ensure that the weapons systems they carry into battle will work as they are intended. Adequate testing of weapons is not an abstract concept. Lives depend on it, and tax-

payers, particularly in this day, as we reach and stretch for every dollar to protect us against counterterrorism, would demand that we not waste our resources by putting something in the field and then having to go back to the test lab.

So this testing is important, and I think the way that we are funding it, there is a disincentive, because the money comes out of the procurement, basically, or the other parts of the program. There is a disincentive for testing that I think is crucial to the development of these very sophisticated systems.

So with that, let me call on Senator Roberts to make a statement. We hope to work with you, gentlemen, to see what we can work out in this regard.

Senator Roberts.

STATEMENT OF SENATOR PAT ROBERTS

Senator ROBERTS. Thank you, Madam Chairman. This morning, the Subcommittee on Emerging Threats and Capabilities meets to receive testimony on legislative proposals to reform DOD's test and evaluation infrastructure, as you have already indicated. The December 2000 Defense Science Board (DSB) report and the latest annual report by the Director of Operational Test and Evaluation raise serious concerns about the Department's test and evaluation capabilities. I commend you, Madam Chairman, for your attention to these problems.

I think we need to ask the Department whether the solution that has been put forth in this legislation is the one that they prefer and can implement in the real world of transformation and the ever-changing asymmetrical warfare threats that we face today. During the markup of this year's defense authorization bill, I expressed some reservations about this proposal, but the overall goals of the legislation are indeed very laudable. I had concerns about how this proposal was developed. The committee had not held hearings or engaged the Department. For this reason, I wanted to have this hearing in order to hear the Department's views.

I certainly thank my chairman and my colleague for holding this hearing, but I still think we may have put the cart before the horse in addressing this issue. The committee has already acted on this proposal, and we are now simply holding the hearing, but the chairman is right, problems have been identified with the current funding, capabilities, and facilities in the test and evaluation infrastructure, and that is something that we should address. However, this subcommittee needs to adequately discuss the underlying approach of how the Department tests its weapons systems.

The test and evaluation process has grown up around an acquisition culture which has been all too content in taking a 15 to 20 year time period to develop and deploy any new weapons systems. Does the entire test and evaluation process need to be reevaluated in a period of rapid commercial technology development, joint experimentation, spiral development, and rapidly fieldable prototypes and, if so, will the conclusions reached 2 years ago by the Defense Science Board hold up to scrutiny under new criteria? We need to adapt testing to new ways of buying, rather than simply conform our buying to old, inflexible ways of testing.

I also have substantive reservations about the legislative proposal contained in the committee-passed bill that I would like our witnesses to address. For example, the establishment of the DOD test and evaluation enterprise would continue a trend of centralizing various service functions. This could further erode the military services' Title X responsibilities for equipping and also training our forces. If centralization really is more efficient, then why should the military services have any acquisition function at all?

I am confident that the military services do add value. I am going to ask some questions about that, so I am a little skeptical about the moves to complete centralization of additional acquisition functions. I am also concerned about the test waiver provision in the bill, which appears to be somewhat inflexible. This provision may be establishing a long and bureaucratic process for a program office to obtain needed and legitimate waivers. The net effect is that it may take even longer.

However, I thank my Madam Chairman for holding today's hearing, and I look forward to hearing from our witnesses on the Department of Defense's efforts to address these challenges. I hope we can learn from this hearing, and at the end of the comments, I would tell my colleague and friend, that I think we might be able to work this out. I have already talked to Mr. Wynne about the possibility of having the Department report back to the subcommittee in a very short time period in regards to how they would implement either this legislation, or any suggestions that they might make which would certainly give us a smoother ride when this bill gets to the floor.

So with that, I thank you very much for the hearing.

Senator LANDRIEU. Thank you, Senator Roberts.

Senator Bingaman, do you have any opening remarks?

Senator BINGAMAN. I do not.

Senator LANDRIEU. Thank you.

Mr. Wynne, if you would proceed please.

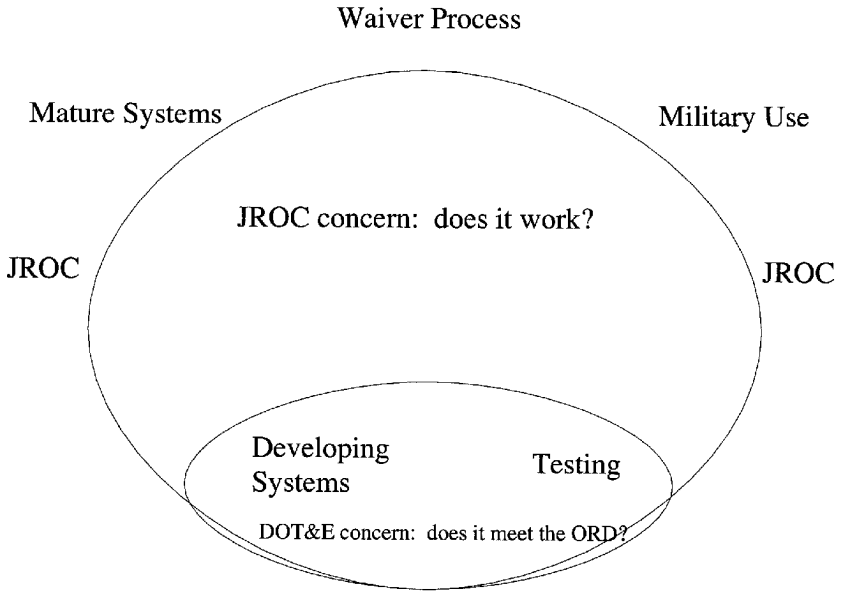
STATEMENT OF HON. MICHAEL W. WYNNE, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS

Mr. WYNNE. Thank you very much, Madam Chairman and members of the subcommittee. Thank you for inviting me here today to talk about the proposed legislation to improve the management of the Department of Defense test and evaluation facilities. Our military is the premier force in the world, and part of their superiority is due to the systems that support them. Developing, testing, producing, and supporting these systems is what we do best. Everyone, the testers, the acquisition personnel, and the requirements community are all motivated to provide the very best systems possible.

The perspective I bring is bigger, of acquisition itself. While testing provides the extra assurance that the system will work and meet its requirements, test and evaluation is but one of the many supporting processes that deliver military capability to our warfighters, and the bottom line is, our systems work. They are working every day across the world from training, to peacekeeping, to warfighting, and if you would not mind, Madam Chairman, I

would like to put up a chart to illustrate what I perceive is the cycle that we are talking about.

[The chart referred to follows:]



The outer circle is the weapons systems development that begins with the Joint Requirements Oversight Council, which consists of the Vice Chairman of the Joints Chiefs as chair, and all of the service chiefs as members. They vote on the requirements that the weapons system has to meet before it goes to the servicemen and women of this country. They establish the requirements that the systems have to do. The testing and development is a smaller circle, and this is where this legislation is focused, in that smaller circle, to essentially correct what is perceived to be deficiencies in the larger circle.

In fact, they enhance the development of the larger circle, because it highlights to the Joint Requirements Oversight Council some overreaches or some underreaches in weapons development. The point here is that the waiver dispositions are more important than the waivers themselves, and ultimately every waiver that is created in test must be disposed of, or the operation requirement must be changed. To that effect, some of the items cited for the Army, for example, have gone through astounding reliability increases since this report was published, and what was found during development and operational testing.

The acquisition process today is roughly in balance. There is a natural tendency for the acquisition community to want to get systems to our warfighters faster so that the warfighter will have the advantage of the best technology available today. It is also natural for the test community to have a desire to hold back systems from

being fielded until all problems are identified, weaknesses are fixed, and the system meets all requirements.

All parties are part of an open debate, and have a seat at the table. Decision makers get the best advice available, and ultimately the warfighter benefits from this process. Therefore, while this proposal contains some areas of mutual concern, we believe it will impede the overall weapons systems development cycle and therefore are opposed to it in its present form.

We recognize that there are some problems with our current test process, and many of our facilities appear to lack appropriate funding, but the proposed legislation will not fix these problems. The legislation creates an imbalance in the acquisition process by providing more control to the Director of Operational Test and Evaluation, raising his authority as a member of the acquisition team. Shifting control will not correct our problems. The ranges will not be funded to the level we prefer, and the test waivers will still be necessary, and test failures will still recur.

In fact, as we proceed through trying to shorten the cycle of development to get this technology to our warfighters, we would anticipate that we would encounter more risk, not less risk, and that therefore we would be encountering more test failures, not less test failures. I would like to address these two issues of test waivers and infrastructure funding. The Defense Science Board and the DOT&E reports highlight specific programs as problems because of the number of failures or waivers during operational tests. Tests cannot be viewed as a pass/fail situation. Test failures can provide valuable information, and waivers and deviations may not only be necessary but, because of the technical complexity of the business we are in, may make good military and business sense.

The proposed legislation attempts to eliminate deviations from the test and evaluation master plan by requiring approval of either the DOT&E or the Secretary or Deputy Secretary of Defense. I do not think we really want the Secretary of Defense to be approving test plan waivers for acquisition programs. He has enormous demands on his schedule, and requiring signatures on test plan waivers at his level would slow testing, and would slow system fielding at the end of the day. A better solution would be a notification that is provided in the DOT&E annual report as it relates to specific systems and disposition of the waivers and process to provide this committee and others in Congress feedback on how the waivers and test failures created actually were fixed later in the cycle.

The DOT&E already must approve the operational test plans under the test and evaluation master plan, and is aware of test plan changes. Giving the DOT&E more control over this waiver process does not mitigate the need for waivers. Waivers are given because the designers know a system will not meet a specific requirement, or failed some portion of the test, but would still provide very useful military capability to the warfighter.

A good example of why waivers are important is the F–18E/F program. This system had about 50 waivers once it failed its operational test. Some of the waivers were due to one of its subcomponent, the advance-targeting, forward-looking, infrared system. This system was simply not ready, and therefore could not be tested with the rest of the aircraft. Instead, an existing FLIR, forward-

looking infrared radar, was used, and those portions of the tests were waived. Once that system became ready, it will be installed and tested. From those original 50 waivers, 30 have been tested, and the remaining will be tentatively completed by 2006. So I ask, should we have slowed the process and perhaps impacted the production line of F–18s until the ATFLIR is ready? I do not think so.

The same could be said of the Predator, which did not pass tests and thus needed waivers to be fielded. Should the system be slowed and the fielding delayed of a system that we know to be better than anything we have used before? It should be okay to have waivers and failures, because the big picture is that even if a system does not meet all of its requirements, it may still have greater capability than anything that currently exists.

One of the reasons cited for waivers in the DSB and DOT&E reports is that our systems are not receiving enough development testing before proceeding to operational testing. This is happening in some cases. We already have work in progress to resolve this issue. This is sometimes the case because there is not enough money to sufficiently test programs because they were underfunded from the start, or they are operating under such tight budget constraints in that anything less than a fully successful test program requires additional testing and, therefore, additional dollars.

There are things we are doing, in fact, to correct this process. We are realistically pricing programs and also requiring full funding of our programs. The defense acquisition executive has mandated that the cost analysis independent group estimates are used unless there is a compelling reason to use different estimates. This will help ensure that all elements of the program, to include testing, are not short-changed because of affordability problems.

Another reason programs are reducing developmental testing is schedule crunch, a reaction to the tremendous pressure we put on program managers to speed up systems development. This pressure comes not just from the Department but also from you, Congress, to get this technology into our warfighters' hands, but again, our readiness of a program for tests must be weighed and balanced against the other concerns for military utility, the cost, and the schedule, and that balance is currently in hand, and management is receiving adequate information to make decisions.

The other major issue cited is inadequate funding for test infrastructure. The proposed legislation creates a centralized activity to manage the test ranges, and fences range investment accounts. The present budget provides the best balance of funding for the full scope of the DOD's mission. There is just not enough money in the budget to do everything we want. The test community has a place at the table when decisions are made to allocate funding. Frankly, setting up a fenced account will only move money from other needs, not solve funding shortfall problems.

Also, centralized management will not resolve the problem of range management, but will only result in a new office that will require extra reporting, extra financial management, and ultimately delay effective management. This amounts to another agency that could slow down our acquisition cycle times even more, and it could have an even worse impact on training, which is a large user of test ranges, but will have little say in this investment.

In managing our T&E facilities there is a delicate balance of training and testing, because training for both service and joint exercises often involves the test ranges. A good example of this is the Nellis Air Force Base, which is one of the Air Force's primary test facilities for aircraft and weapons systems, and home to Red Flag, an annual exercise that involves not only joint services, but also international forces.

In fiscal year 2000, 93 percent of sorties flown at Nellis, 83 percent of sorties flown at Eglin Air Force Base, and 60 percent of the sorties at Edwards Air Force Base were, in fact, for training, not for tests. Placing the ranges and facilities under the control of the DOT&E, rather than the services where it is presently held, could have an impact on the readiness of our servicemen if it becomes a contentious issue of investment.

We recognize that we have more challenges ahead, specifically as we continue to emphasize evolutionary acquisition and spiral development to shorten the weapons systems acquisition and fielding cycle times. Because the Secretary and Congress desire to speed up the transition of technology into usable equipment, we may see more test waivers as we add iterations of capability. Our desire is to get the warfighter equipment that is better than anything they have in order to give them a decisive advantage. We think that the current balance allows for that.

We must continue to involve the DOT&E in the establishment and exercise of test programs and spiral development, but just as we do not want the designer to be responsible for setting test requirements, the specific design requirements should be left to the services and not driven by what the tester thinks must be tested to ensure effectiveness and suitability.

The tests developed would provide, do provide the right kind of management data for good decisions and corrective actions. Rather than striving for zero waivers, we should strive for better data and better analysis, which the current DOT&E provides extremely well.

There are some parts of the legislation that we do support. We agree that the need to include the test functional community in our ongoing human capital strategic planning and our contribution-based workforce demonstration project is great. We also agree that we need a DOD-wide accounting system for testing, but this should be part of the ongoing financial management renovation and management program that we are involved in.

In closing, we appreciate the good intentions of Congress. However, we feel that this proposed legislation will not result in the goal of an integrated and well-managed T&E process, nor will it provide a well-managed and integrated acquisition process, which is the larger circle that we referred to. To provide better capabilities to the warfighter faster, is what our intentions are. We would like to continue to work with you and the DOT&E to find solutions to the challenges that the Defense Science Board raised.

Thank you. I am happy to have John Young with me today, the Navy's senior acquisition executive. He would like to provide a few comments from the perspective of the services, if you do not mind.

[The prepared statement of Mr. Wynne follows:]

PREPARED STATEMENT BY HON. MICHAEL W. WYNNE

Madam Chairman and members of the subcommittee:

Thank you for inviting me here today to talk with you about the proposed legislation "Improved Management of Department of Defense Test and Evaluation (T&E) Facilities." The importance of T&E in ensuring our systems work is *critical* and we appreciate your interest in this topic. Our military is the premier force in the world and part of their superior advantage is due to the exceptional systems that support them. Developing and fielding systems so that a soldier is confident a gun will fire when the trigger is pulled, a bomb will find its correct target, or a communication system will send a call for reinforcements, is what the Department's acquisition, technology and logistics workforce does best. There are no second chances in our business. Testing provides the extra assurance that a system will work when it has to and under all types of conditions.

Improving our T&E process has been the subject of many studies such as the Defense Science Board's (DSB) Report on Test and Evaluation released in September 1999, the DSB's Report on Test and Evaluation Capabilities released in December 2000, and most recently, the Defense Operational Test and Evaluation (DOT&E) Annual Report for fiscal year 2001. These reports investigated and identified ways to improve our process and your legislation reflects many of the recommendations from those studies.

Some of these same recommendations were reviewed last August and again in December by Secretary Rumsfeld's Senior Executive Council (SEC). The SEC, a council made up of the Secretary, Deputy Secretary, the Under Secretary for Acquisition, Technology and Logistics, and Service Secretaries, reviewed the issues of centralized funding and management of the test and management infrastructure. As a result of the SEC discussions, the Service Secretaries approach is: (1) for the services to work together to effectively utilize and manage resources across the three services; (2) that neither a separate OSD range management office nor centralized funding is necessary; and (3) that the services already have sufficient incentives to effectively manage these enterprises and to adequately fund needed facilitation. We presently have in place a Vice-Chief-level Board of Directors that provides cross-service use and accountability of T&E facilities. Furthermore, OSD does influence T&E funding through the Defense Planning Guidance (DPG) and the budget process.

We agree with some areas of the proposed legislation such as section 235 that calls for human capital planning of the T&E workforce and section 234 that creates a single DOD-wide accounting system. The Department is working on both of these areas with our human capital planning efforts and our initiative to improve financial management systems across DOD. We have reservations about creating a centralized activity to manage the test ranges as proposed in section 231 or creating fenced range investment accounts as proposed in section 232 and section 233. We believe that centralized management likely would not resolve the problem of range management but could result in a new office that will require extra reporting, extra financial management, and ultimately delay effective management.

One key area the proposed legislation fails to recognize is the fact that our test ranges and facilities also support vital operational training as well as operational testing. T&E is the insurance policy that assures the Department that a system will meet its requirements, and as with any insurance policy, balance is the key. In managing our T&E facilities, there is a delicate balance of testing and training because training for both service and joint exercises often involves the test ranges. A good example of this is Nellis Air Force Base, one of the Air Force's primary test facilities for aircraft and weapon systems, and home to Red Flag, an annual exercise that involves not only joint services, but also international forces. In fiscal year 2000, 93 percent of sorties flown at Nellis, 83 percent at Eglin Air Force Base, and 60 percent of the sorties at Edwards Air Force Base were for training. Likewise, the Navy's Atlantic Underwater Test and Evaluation Center (AUTEC) facilities support T&E of many underwater systems, but also supports sound testing of submarines, necessary for pre-deployment operational readiness. Both in the DSB report and the proposed legislation, it is very unclear as to what authority the central agency holds, but it seems to unbalance the test and training that each service manages each year.

The legislative proposal is also not clear on the delineation between developmental testing and operational testing. Developmental testing is important for learning a system's characteristics and capabilities and the results of such tests often impact the design. Operational testing confirms the systems performance once design is complete. Most of the T&E performed at the test ranges and facilities is developmental in nature and not within the purview of the DOT&E. In fiscal year 2001, the Navy's developmental testing accounted for 58 percent of the total work-

load. Delegating control of the test ranges and facilities to DOT&E would put developmental testing under the cognizance of operational test. This would create significant cost and schedule impacts to crucial developmental testing. The very nature of the test community is to continue testing until all issues are resolved. Placing control of the test facilities under the testers could create an endless do-loop of testing.

The imbalance between test and training, and developmental and operational testing, would be compounded when money is moved from program accounts and fenced in range investment accounts as recommended by section 232. While we are concerned with infrastructure issues such as better calibration, or getting more data more quickly, placing investment in a "frozen account" might result in unbalanced investment that will impact training. We are concerned with the continuing problem surrounding overhead costs and their impact to program mangers (PMs) when they use the test ranges and facilities. However, a range investment account established as a percentage of the RDT&E account from each service would essentially result in a tax on each of the PMs, regardless of their test requirements and would introduce certain rigidities into the system that would be undesirable.

The DSB reports highlight a potential management issue with regard to the quantity of waivers from approved test requirements in the TEMP, but do not address the actual impact of these waivers on our forces. The proposed legislation in section 236 eliminates deviations from the Test and Evaluation Master Plans (TEMPs) without the approval of the DOT&E or the Secretary or Deputy Secretary of Defense, without re-delegation, and requires notification to Congress. This provision removes any flexibility in testing, which is undesirable when we are weighing a system's readiness against the need to provide it to the warfighter. DOT&E already must approve test plans under the TEMP and is aware of test plan changes. The proposed language is not clear as to the level of deviation that is addressed. Assuming it refers to major test events and not specific system characteristics, threat presentations or other program or tester level decisions, an alternative approach could be notification provided in the DOT&E annual report as related to specific systems.

We recognize we have more challenges ahead, specifically as we continue to emphasize evolutionary acquisition and spiral development to shorten the weapon system development life-cycle. Spiral development allows us to get militarily useful capability to our warfighters and at less cost by producing and deploying systems based on mature technologies that will satisfy only a portion of the objective need. Because the Secretary desires to speed up the transition of technology into usable equipment through incremental fielding of capability, we may need the increased flexibility that test waivers can provide as we add iterations of capability, especially if the performance of that technology is not completely understood. Additionally, in order to obtain an early understanding of what we are facing from a support and maintenance point of view, we may want to deploy equipment that may require prudent testing waivers. In certain cases, development and operational testing, by their very nature, cannot exactly replicate the real world, and we need to gain real world experience to get the most accurate level of performance. Many times the early gear is for training units, which is the perfect place to gain feedback and introduce corrective actions. Our desire is to get to the warfighter equipment that is better than anything they have. Safety of our people will always be our number one concern, but beyond safety, we must not let the best be the enemy of the good when it comes to operational requirements.

In closing, I want to express my appreciation to Congress for their support. Congress has long been a valued partner in our quest for change throughout the Department. The T&E area has been no different. We appreciate the support of Congress, but we feel this proposed legislation will not result in the goal of an integrated and well-managed T&E process.

Thank you for the opportunity to provide this statement for the record.

Senator LANDRIEU. That will be fine. Thank you, Mr. Wynne.

Mr. Young.

STATEMENT OF HON. JOHN J. YOUNG, JR., ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION

Mr. YOUNG. Madam Chairman, distinguished members of the subcommittee, thank you very much for this opportunity to discuss the management of the Defense Department's test and evaluation facilities.

One of the mandated responsibilities of the Service Secretaries includes the requirement to train and equip their respective services. The acquisition process implied in this responsibility includes taking the necessary steps to ensure that the systems that we put in the hands of our soldiers, sailors, airmen, and marines will operate as intended in combat situations. Lives depend on it. In order to fulfill this obligation, test resources and facilities are an integral part of each service's acquisition process, and must be maintained by the services in order to provide both acquisition and life cycle support to our systems.

The most fundamental aspect of our acquisition process is that we continually conduct test and evaluation of systems throughout all stages of development. Build a little, test a little, and learn a lot does work, and that is how we are doing business. By test a little, I really mean a lot of testing along the way, not just a few large tests at major milestones. This testing philosophy becomes even more crucial in an evolutionary or spiral acquisition process as we specifically strive to deliver capability to the fleet today that is good enough, while continuing development on the ultimate solution for the future.

As the Navy's Service Acquisition Executive (SAE), and speaking for the other SAEs, we are all interested in optimizing the test infrastructure throughout this entire process. The Major Range Test Facility Base (MRTFB) facilities discussed in this proposed legislation are just one part of the overall T&E infrastructure that we work very hard to support. If you take the *Arleigh Burke* class Guided Missile Destroyer (DDG) as an example, we support contractor facilities where we conduct extensive testing, including many developmental tests, or DT events. We support the Aegis Computer Program Center in Dahlgren, Virginia, where we do extensive software development and integration testing. We support the Surface Combatant Systems Center at Wallops Island, Virginia, where we test and evaluate developmental and in-service systems together. We support the mechanical and electrical test facility at the Surface Ship Engineering Station in Philadelphia, Pennsylvania where we develop, test, and evaluate integrated engine, damage control, and navigation systems. We support the Naval Surface Warfare Center in Dahlgren, Virginia, where we conduct live fire gun evaluations, and finally, the Navy supports the AUTEC Range, a MRTFB facility where DDGs undergo test and evaluation of systems at sea during combat systems qualifications trials.

Each element of this integrated test infrastructure plays an essential role, and modernization and sustainment decisions must be made considering the complete test infrastructure. It is this total integrated testing infrastructure that Secretary England and his colleagues believe must be managed within each respective service.

The test resources also go beyond facilities and equipment. It includes the people. Each of the services works hard to develop officers and civilians who have experience in the test community, as well as on acquisition programs. New platforms and weapons benefit greatly from the service-specific experience of people manning the test ranges. Further, the entire Defense Department benefits when these skills are brought to bear on the test programs of other

services. It is not necessary or helpful to centralize the funding and management of these facilities, and the skilled people who oversee testing activities.

Like the Army and the Air Force, the Department of the Navy continually seeks to ensure that there is a balanced, full spectrum test infrastructure. To break a portion of these facilities out from the whole and fence the resources that go with them will lead to a suboptimization of the overall integrated management that I talked about, and does not recognize all of the facilities involved that are necessary to carry out development tests and operational tests. As you have heard, all of the Service Secretaries felt very strongly about retaining this T&E facility responsibility and oversight when the issue was considered before the Senior Executive Council earlier this year.

In addition to the need for integration across the range of test ranges and facilities, the services also have integrated the test facilities into their engineering capabilities. For example, as part of the previous four rounds of BRAC, the Department of the Navy has created full spectrum Warfare Centers. These Warfare Centers support research development, test, and evaluation, as well as in-service engineering for our existing assets. Test resources and facilities are critical to the way these full spectrum Warfare Centers develop and support Navy and Marine Corps systems. MRTFB ranges and facilities are integral parts of many of these Centers. The synergy developed from this collocation and the sharing of human and equipment capital has greatly improved Navy and Marine Corps acquisition programs. An effort to disassociate the test and evaluation facilities from our Warfare Centers would damage this synergy.

As you have heard, Navy Major Range and Test Facility Bases are also used for more than operational testing. In fiscal year 2001, development testing was 58 percent of the workload. 15 percent of the workload was for other Department of Defense users. In that year, our Navy MRTFB ranges and facilities were used for F–22, B–2, C–17, and Patriot testing, and only 4 percent of the fiscal year 2001 workload was for Navy operational testing, while almost 15 percent supported operational readiness through training and other uses. The Defense Department is efficiently and very effectively using all its MRTFB and other test assets.

Within our overall T&E planning, the Navy has a three-step process to aggressively manage its MRTFB resources and facilities. First, the MRTFB competition process validates whether or not newly nominated facilities should be included in this MRTFB base, and revalidates whether the existing facilities should remain. Second, budget reviews starting at the individual billet level are conducted to determine the required usage and the funding that is required for each MRTFB facility. Finally, rigorous investment reviews are conducted using documented investment road maps to validate test and evaluation proposals. Through these processes, the overhead costs of MRTFB facilities are determined and centrally funded under the Navy's test and evaluation sponsor, N91. Development and acquisition programs are charged the incremental costs of the testing and operations at these facilities.

Finally, Admiral Fallon, the Vice Chief of Naval Operations, is the Navy's member on the Tri-Service Vice Chief Board of Directors. This group provides coordinated oversight management of the various MRTFB facilities.

The bottom line is that we have a plan and oversight process, and we support this plan within our Department-wide priorities, and we maintain the facilities that are used by all components of the Defense Department.

Likewise, consistent with Secretary Wynne's comments, the Navy has a specifically defined process for granting waivers to the testing conducted under a Test and Evaluation Master Plan. Today's complex weapons consist of multiple integrated subsystems, and the entire system cannot be stopped for the delay of a single subsystem. Test exceptions follow a rigorous review process that includes the Program Manager, Program Executive Officer, Commander Operational Test and Evaluation Force, the Resource Sponsor, and the Navy's Executive Agent for T&E, N91. If the program is under DOT&E oversight, we must gain written concurrence from DOT&E for exceptions and waivers.

Of over 315 programs, only 12 in the Navy have requested exemptions, resulting in a total of 93 test requirements waived or deferred. Mr. Christie has noted that he believes the services have successfully addressed some of the concerns about the waiver process.

To summarize, MRTFB facilities are an integral part of a total test infrastructure for each service. Further, this test infrastructure is an integral part of our laboratories, warfare centers, and development programs. The services are budgeting the cost of operating these facilities within the resource constraints that affect every program. Finally, when it is time to test, there are rigorous processes to ensure that all requirements are tested or appropriately deferred to a future test.

We want to continue to communicate fully and openly with Congress, industry, our warfighters, and our acquisition professionals on these issues. We all share a common goal of doing everything it takes to make sure our service members are provided with the safest, most dependable, and highest-performance equipment as quickly as possible within available fiscal constraints. We appreciate the support provided by Congress, and look forward to working together with this subcommittee toward this goal.

Senator LANDRIEU. Thank you very much. I appreciate both of your statements, and would now ask Mr. Christie and Mr. Krings if you will—and you do know that your full testimony will be put in the record, so you might want to take this opportunity just to summarize all your statements so we can get to some questions.

STATEMENT OF HON. THOMAS P. CHRISTIE, DIRECTOR, OPERATIONAL TEST AND EVALUATION

Mr. CHRISTIE. Yes. I am also pleased, Madam Chairman, Senator Roberts, and Senator Bingaman, to have this opportunity to discuss this proposed legislation. As you probably know, I served on both of the DSB panels that we are talking about the results of—they made quite a few recommendations—but today I appear here not as a member of either of those panels, but as the Department's

DOT&E, a position that this committee honored me with confirmation nearly a year ago.

Never in my wildest dreams, when I served on the DSB panels of a couple of years ago, did I dream that I would be called upon to implement all of those recommendations.

Senator LANDRIEU. Had you known, you would have made less of them?

Mr. CHRISTIE. No, no, no, I am not saying that. I understood at the time the difficulty that would ensue. I just did not realize I would be the stuckee.

I have, in fact, given, as you requested, an assessment of all of your proposals in my written statement. I am not going to cover those, but there were 25 recommendations in this last report, and within my role as DOT&E, I think we have been able to address 16 of these within the building in the past year—some with a lot of success, some with less success, and some with no success, but we have attempted to take them all on. The other nine lay outside my responsibilities.

Let me just talk about a couple of those that we are in the process of working that impinge on this entire problem.

Value of testing. This may seem like a strange topic. However, because of the way testing is currently planned and funded, articulating its value has become critical to the survival of the test ranges and adequate test and evaluation. As more and more of the costs of tests and costs of the ranges are being charged directly to programs, the ranges find themselves having to sell their capability to program managers.

As test and evaluation overhead and maintenance costs have shifted to the individual acquisition programs, the cost of testing to program managers has risen. Thus, a program manager who chooses to go to a specific range for testing is charged not just for the cost of the test, but also for a large fraction, in some cases, for the upkeep and maintenance costs of that range.

Needless to say, program managers are not anxious to pay for more than their direct costs, and I do not blame them. Unfortunately, too often, program officers have tended to avoid testing under these circumstances. This is especially true in development testing, where the record shows that we have brought too many systems into operational tests—and the discussions by Mr. Wynne and Mr. Young that went on earlier dealt with these—before they were ready.

The latest Army estimate is that 75 percent of their systems fail to meet even 50 percent of their reliability requirements in operational tests. My office has been working with the test community in an effort to develop some sort of an approach to express return on investment from testing for program managers.

Quality of testing. The DSB found that, "testing is not being done adequately." The quality of testing can suffer when testing is avoided, when adequate capabilities to test do not exist, or when the testing is not funded properly in either magnitude or phasing. The DSB found existing policies that were being used to avoid or defer some testing and, more importantly, to avoid evaluation.

I sent a memorandum to the services on this late last year asking them to cease the unilateral waiving of requirements for test-

ing, not the waiving of requirements, and requiring that all operational requirements be part of their evaluation. There has been real evidence, and John spoke to that also in his statement, and I think we are well on the way to having solved that problem within the Department.

The last threat to the quality of Government T&E discussed by the DSB is funding. The DSB considered the magnitude of the funding allocated to T&E by the services as well as its phasing, and by phasing I mean that development testing is not supported well enough or early enough; hence, systems get into operational tests with too many problems. This may sound as if it is a developmental test problem. It is in part, but as I said before, one significant root cause of this problem is how the tests are funded.

I believe the funding structure has to change to solve this problem, and again, this is the institutional funding versus program funding that I am talking about.

The DSB also found the state of the infrastructure, to include physical plants, ranges, real estate, instrumentation, and other analysis capabilities—targets, personnel, and so forth—in need of near-term investment and high-level emphasis. The report identified three areas just as examples, and I will not go into those now, but adequate targets was one of the biggest problems that we found.

Let me turn now to the recommendations that were not implemented. They center on the management of T&E resources. The DSB, as part of its response to this committee, recommended that DOD create a test and evaluation resource enterprise. As envisioned by the task force, the enterprise would, (1) fund and manage the DOD T&E organization's workforce and infrastructure; (2) it would be at the OSD level under my office; (3) it would be funded by transferring the appropriate military services' funding for investment, operations, and maintenance of the MRTFB test resources and facilities to the enterprise; and (4) it would allow the operation of the test facilities to remain under service control. We are also addressing this problem in the building.

For example, defense planning for the fiscal year 2004 budget includes two actions that bear on our efforts to improve T&E policies, procedures, and infrastructures. In that planning guidance, we are called upon to provide by this fall an assessment of how best to make the ranges able to support affordable, adequate testing. We are further asked for a review of what changes are needed to harmonize the Department's new acquisition strategies discussed by Mr. Wynne and Mr. Young with respect to testing policies and procedures.

Both aspects of this guidance are consistent with the findings of the DSB, and should lead to consideration of many of the topics that are advanced in the proposed legislation, because we recognize that current funding policies and structure can, in fact, work against adequate testing. However, plans and reviews are neither an implementation nor a solution. The proposed legislation is a potential solution in line with the DSB recommendations.

The development of a strategic plan for the maintenance and modernization of our T&E infrastructure is a much-needed step in guiding our efforts to provide a robust T&E capability for the fu-

ture. Today, we have inequities that surface on a case-by-case basis where we have one service conducting tests in one context, and another service with very similar weapons conducting a test in a different context. We need to adjudicate these differences and bring to bear some standards. This is also one of the issues we are looking at very much.

The second planning item calls for streamlining T&E to match the goals of streamlined acquisition. There are those who, after observing DOD programs for the last dozen or so years, might believe that streamlining T&E is a code word for testing less. I do not agree with that assertion. However, in order to streamline, I believe we will have to address increasing the tempo with which we conduct tests and analyze the results. Currently, it is almost as if the schedules at the ranges depend on the systems not being ready for test. In fact, only about 40 percent of the tests scheduled start on time, because the systems are not ready.

If the latest acquisition initiatives deliver what we hope they will, then a greater fraction of programs should be ready for testing on or near their schedules. In this respect, I fear the T&E community might not be prepared for success in acquisition reform. That means the ranges will have to increase their capacity to improve, or improve their responses. Right now, for example, the Navy has had to pause AIM–9X testing, in part because the test infrastructure at the Navy's test site cannot keep up with the demands of that one test. This fall, there are 15 tests scheduled at the same site.

In sum, many of the items in the proposed legislation would likely be addressed when future defense plans are implemented, so what we may have here is a difference in the schedule for transformation, not necessarily one of different goals. Addressing an issue, however, does not necessarily mean that the Department will come up with a solution, much less one that matches the DSB recommendations very closely. Nevertheless, the direction that the Department is taking is an acknowledgement that there is a problem, and improvement is necessary, and you have my commitment that I will press to find that appropriate solution.

In summary, then, I can say that the Department largely supports the thrust of the DSB report recommendations. We have already had some success in implementing the recommendations of that report. This legislation seeks to accelerate that implementation faster and more thoroughly than what we have accomplished or planned so far. A review of the legislation shows that it does match the DSB recommendations in many respects. It addresses in some cases more fully many of the problems that we have identified when we were on the task force.

I thank you for your kind attention to my remarks, I believe testing to be a critical part of what we must do for our soldiers, sailors, airmen, and marines, and I believe your careful consideration of the Defense Science Board recommendation reflects that same concern.

Thank you.

[The prepared statement of Mr. Christie follows:]

PREPARED STATEMENT BY HON. THOMAS P. CHRISTIE

I am pleased to have this opportunity to discuss the proposed improved management of Department of Defense Test and Evaluation Facilities legislation that implements major Defense Science Board (DSB) recommendations with respect to test and evaluation (T&E). Two recent DSB reports on T&E, one in September 1999 and another—which your committee directed—in December 2000, made a number of recommendations for improving the Department's T&E programs. As you no doubt know, I served on both of these DSB panels. But I appear here today, not as a member of either of those panels, but as the Department's Director, Operational Test and Evaluation (DOT&E), a position for which this committee honored me with confirmation nearly a year ago. I must admit that never in my wildest dreams did I believe, as I participated in those two DSB task forces, that I would have the opportunity to implement those recommendations.

You have asked me to provide an assessment of the proposed legislation, the current state of the Department's test and evaluation facilities, the findings of the DSB task force report and my annual report, and any other recommendations to address the problems identified by the DSB task force or my annual report.

While I have some specific comments to make concerning the proposed legislation, with your forbearance, I would first like to briefly review what has been accomplished since July of last year when I was confirmed, with respect to the major recommendations of the December 2000 DSB Report.

That report in essence covered five major areas:

- The Value of Testing
- Management of T&E Resources
- The Quality of Testing
- Specific T&E Investments
- Use of Training Facilities/Exercises for T&E Events

In all, there were 25 recommendations made with respect to those topics. I have, within my role as DOT&E, been able to address 16 of these during this past year—some with more success, some with less, and some with no success. The other nine lay outside my area of responsibility. Let me briefly cover some of the steps we have taken to address some of these recommendations.

THE VALUE OF TESTING

The value of testing may seem like a strange first topic for the DSB. It should be obvious to everyone that the Department's goal is to field weapons that work, and that testing is invaluable as a design tool, a means for verifying performance, and ultimately confirming the operational effectiveness and suitability of those weapons. But I'm concerned that the current funding structure works against adequate testing. Because of the way testing is currently planned and funded, articulating its value has become critical to the survival of the ranges and adequate test and evaluation capabilities. As more and more of the cost of tests and the cost of the ranges are being charged directly to programs, the ranges find themselves having to "sell" their capability to program managers.

As test range overhead and maintenance costs have shifted to the individual acquisition programs, the cost of testing to program managers has risen. Thus, a program manager who chooses to go to a specific range for testing is charged not just for the cost of the test, but also for a large fraction of the upkeep and maintenance costs of that range. Needless to say, program offices are not anxious to pay for more than the direct cost of their testing, and I don't blame them. Unfortunately, too often program offices tend to avoid testing under these circumstances. This is especially true of developmental testing, where the record shows that we have brought into operational test many systems before they were ready. The latest Army estimate is that 75 percent of the systems fail to meet even 50 percent of their reliability requirement in their operational tests.

I have heard program managers say: "A dollar spent on testing is a dollar spent looking for trouble." Under the current funding structure, one can see why "articulating the value of testing" becomes necessary for the ranges. Unfortunately, the ranges have not been good at it. Government weapons programs do not have the same market-created measures as in the private sector to demonstrate the value of testing such as warranties, recalls, and class action law suits that are real in the private sector and that provide a cost risk to industry which testing helps reduce.

My office has been working with the Army test community on an effort that develops an approach to express the return on investment in testing for program managers. These approaches include quantifying the cost benefit to finding failure modes early to avoid retrofits and the life cycle cost benefit from improved reliability

when the reliability testing is robust. We have also found interest from and are utilizing the professional testing organization, the International Test and Evaluation Association, which this year will sponsor two symposia with the theme "The Value of Testing."

THE QUALITY OF TESTING

The DSB found that "Testing is not being done adequately." The quality of testing can suffer when testing is avoided, when adequate capabilities to test don't exist, or when the testing is not funded properly in either magnitude or phasing.

The DSB found existing policies that were being used to avoid or to defer some testing and (more importantly) to avoid evaluation. I sent a memorandum to the services on this, asking them to cease the unilateral waiving of requirements and requiring that all operational requirements be part of the evaluation. The specific policy most obvious was a Navy policy that allowed waivers to test and evaluation. There has been real evidence of change in specific programs.

Where adequate test capabilities don't exist, they need to be developed. The Central Test and Evaluation Investment Program (CTEIP) is part of my responsibility as DOT&E. CTEIP has a number of programs aimed at developing and fielding needed improvements to our test capabilities. I'll mention some of these later in the context of the DSB's recommendations for specific investments, some of which I have been able to fund with the limited CTEIP budget and other funds available to me.

The last threat to the quality of government T&E, discussed by the DSB, is funding. The DSB considered the magnitude of the funding allocated to T&E by the services as well as its phasing. The DSB recommended a "reform of the acquisition process in order to support the adequate and robust T&E of new weapons systems that work the first time, all the time." By phasing I mean that developmental testing is not supported well enough or early enough. Hence, systems get into operational tests with too many problems. This may sound as if it is a developmental test problem. It is in part. But as I said before, one significant root cause of the problem is "how the tests are funded." The funding structure has to change to solve the problem.

SPECIFIC T&E INVESTMENTS

The DSB "found the state of the infrastructure—to include physical plant, range real estate, instrumentation, data reduction and analysis capabilities, targets, personnel, among other facets of test planning and conduct—in need of near-term investment and high-level emphasis . . ." Three areas identified—and they were but examples, and not a complete list—were frequency management, embedded instrumentation, and more realistic targets.

Frequency Management

With the resources at my disposal, I have been able to invest in systems for Advanced Range Telemetry (bandwidth efficient instrumentation), a Joint Advanced Missile Instrumentation (a spectrum efficient GPS [Global Positioning System] hybrid system) and an Enhanced Range Application Program (a flexible data link to support T&E and Training). This last project is an example of how the test and training communities can position themselves, with respect to instrumentation, to work together more closely. This project also provides a concrete initiative to begin to implement improvement in the fifth and last area discussed by the DSB.

Embedded Instrumentation

With respect to embedded instrumentation, we planned to initiate projects to pursue embedded instrumentation enabling technologies, but funding reductions in our testing technology program last year forced us to postpone project initiation.

Subsequent to the DSB, the Department has rewritten the Acquisition Regulations. One section in the regulations that is getting attention is embedded instrumentation. The current regulation includes a requirement for the program manager to consider embedded instrumentation. The Department's Business Improvement Council is considering an initiative that would require the program manager to evaluate embedded instrumentation in the analysis of alternatives. If embedded instrumentation promises a cost benefit over the life cycle, it would become a requirement for the system. I note that the DSB came to its conclusions on embedded instrumentation as it was considering the connection between testing and training. Embedding instrumentation could make possible a better link between testing and training.

Realistic Targets

Target problems remain a very serious impediment to realistic testing (and training for that matter). The Navy needs a self-defense target ship to permit us to adequately test ship defense systems. Our missile defense programs need more realistic targets; the target drone situation for air-to-air missiles testing and training continues to worsen. These aerial targets are needed for a large number of programs. Unfortunately again, the way these programs are funded has had a negative effect. The first program manager who admits he needs these assets will be the one to bear the major part of their cost.

As I stated earlier, I have addressed some 16 of the 25 recommendations found in the DSB report in my first months in office. I would say that we have made progress on 13 of the 16. Let me now turn to the recommendations that were not implemented. They centered on management of T&E resources.

MANAGEMENT OF T&E RESOURCES

The DSB—as part of its response to this committee—recommended that DOD create a "Test and Evaluation Resource Enterprise." As envisioned by the task force, the Enterprise would (1) fund and manage the DOD T&E organizations, workforce, and infrastructure, (2) be at the OSD level under the Director, Operational Test and Evaluation, (3) be funded by transferring the appropriate military service's funding for investment, operations, and maintenance of Major Range and Test Facilities Base (MRTFB) test resources and facilities to the Enterprise, and (4) allow the operations of the test facilities to remain under service control.

Defense plans for fiscal year 2004 include two actions that bear on efforts to improve T&E policies, procedures, and infrastructure. We are called upon to provide by this fall an assessment of how best to make the ranges able to support affordable, adequate testing. We are further asked for a review of what changes are needed to harmonize the Department's new acquisition strategies with testing policy and procedures.

Both aspects of the guidance are consistent with the findings of the DSB and should lead to consideration of many of the same topics advanced in the proposed legislation because we recognize that current funding policies and structure can work against adequate testing.

The development of a strategic plan for the maintenance and modernization of our T&E infrastructure is a much-needed step in guiding our efforts to provide a robust T&E capability for the future. There may be a number of ways to implement such a plan. Among other things, it would require us to reconcile testing methodologies between the services.

For example, this year we examined two weapons test plans by different services against the same intended target set. One weapon system was to be tested on an Army range against a moving column of remotely controlled armored vehicles with realistic countermeasures and with the potential for dust and obscuration that movement brings. The other system was to be tested at an Air Force range against a static array of hulks with hot plates that were to simulate the signature of hot vehicles. Clearly a more balanced strategic view would preclude such inequalities.

Today these inequities surface on a case-by-case basis, usually after the services have done their planning and often only during the operational test phase. Turning around such planning at that point is neither streamlined nor efficient. Hopefully, a well-done strategic plan would change that.

Further, I cannot imagine a strategic plan that did not bring the test ranges in line with Sec. 907 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999, which aimed at cost-based management. In that sense, the strategic plan would address the DSB recommendation for a common financial management system.

Finally, I cannot imagine a strategic plan that did not address much needed improvements in the T&E workforce, which was yet another DSB recommendation.

The second planning item calls for streamlining T&E to match the goals of streamlined acquisition. There are those who, after observing DOD programs for the last dozen or so years, might believe that "streamlining T&E" is a code-word for "test less." I do not agree with that assertion. However, in order to streamline, I believe we will have to address increasing the tempo with which we conduct tests and analyze the results. Currently, it's almost as if the schedules at the ranges depend on systems not being ready for test. In fact, only about 40 percent of tests start on time because the systems are not ready. As I have said before, Lord knows what would happen if all the programs that claimed to be ready for testing in 2002 actually showed up for testing. If the latest acquisition initiatives deliver what they hope for, then a greater fraction of programs should be ready for testing on or near their

schedules. In this respect, I fear the T&E community might not be prepared for success in acquisition reform. That means the ranges will have to increase their capacity or improve their responsiveness. Right now the Navy has had to pause AIM–9X testing in part because the test infrastructure at the Navy's test site cannot keep up with the demands of that one test. In the fall, there are 15 tests scheduled for that one site.

In some cases, such as the F–22, the inability of the test infrastructure to maintain a high tempo of testing, to surge when needed, may be slowing down the progress of the program. AIM–9X testing is suffering because U.S. Navy and U.S. Air Force QF–4s and their ranges are not interoperable. We have also seen delays at the Army's White Sands Missile Range due to critical infrastructure staffing shortfalls.

Many of the items in the proposed legislation would likely be addressed when future Defense plans are implemented. So what we may have here is a difference in the schedule for transformation, not necessarily one of different goals. Addressing an issue does not necessarily mean the Department would come up with a solution, much less one that matches the DSB or the proposed legislation which, I have said, follows the DSB recommendations very closely. Nevertheless, the direction the Department is taking is an acknowledgement that there is a problem and improvement is necessary. You have my commitment that I will press to find an appropriate solution.

Let me now comment on the proposed legislation. First, we recognize that it is crafted to fully implement the recommendations of the Defense Science Board task force. I can offer you a few observations based on my personal experience.

One problem area that I can point to is the effect the transfer will have on the Central Test and Evaluation Investment Program. The DSB used CTEIP as the model for organization and process. However, the CTEIP was established to develop tools needed for T&E. It would be better to keep large-scale operational funds separate from development of test equipment.

1. Section 236 allows deviation from the approved Test and Evaluation Master Plan (TEMP) with either Secretary of Defense, Deputy Secretary of Defense, or my approval followed by notification to this committee within 30 days.

On the surface, this seems like a good thing. Any substantial deviation from a master plan ought to be reviewed carefully, at least by my office and that of the Under Secretary of Defense for Acquisition, Technology, and Logistics (AT&L) to ensure that test adequacy is not jeopardized. So first, there should be a requirement to notify our offices of any departures.

On the other hand, the acquisition regulations encourage tailoring. In that context, such tailoring may include no longer producing TEMPs as we know them. For example, the Air Force has briefed my staff on plans to forego TEMPs as such, and replace them with a combined acquisition strategy and testing document. I am concerned that, if deviations must be reported, the documents themselves will trend to less and less detail making deviations more difficult to detect.

2. The legislation requires a report and plan by the Under Secretary of Defense (AT&L) on improving the T&E workforce.

This section recognizes that most of the individuals doing testing and evaluation in the Department are part of the Acquisition Corps. I know that some Senators and Representatives call the Acquisition Workforce the "Pentagon buyers," and they are constantly pushing the Department to reduce their numbers. So you have put the Under Secretary of Defense (AT&L) in a tough spot (not that he isn't in a tough enough spot already). But the legislation recognizes the fact that most tester positions are currently under the responsibility of the Acquisition Corps.

3. The final section I comment on Section 231 suggests the Under Secretary of Defense (AT&L) has responsibility to designate which ranges comprise the MRTFB (Major Range and Test Facilities Base). For the last 3 years, that responsibility has been with my office. The Deputy Secretary signed the new 3200.11 Directive formalizing that responsibility 2 weeks ago.

In summary then, I can say that the Department largely supports the thrust of the DSB report. We have already had some success in implementing the recommendations of that report. This legislation seeks to accelerate that implementation faster and more thoroughly than what we have accomplished and planned so far. A review of the legislation shows it to match the DSB recommendations in many respects. However, the legislation could cause us problems. The Department desires the opportunity to discuss the proposed Senate legislative objectives internally as well as with your committee. We believe that together we can develop a plan, potentially including a legislative proposal that addresses the recommendations in an effective manner.

I want to thank you for your kind attention to my remarks. I believe testing is a critical part of what we must do for our soldiers, sailors, airmen, and marines. Thank you.

Senator LANDRIEU. Thank you very much, Mr. Christie.

Mr. Krings.

STATEMENT OF HON. JOHN E. KRINGS, MEMBER, DEFENSE SCIENCE BOARD TASK FORCE ON TEST AND EVALUATION CAPABILITIES

Mr. KRINGS. Good morning, Madam Chairman and members of your subcommittee. Thank you for the opportunity to appear before you to discuss my views on the proposed legislation. I spent 15 years as a fighter pilot in the Air Force and the Air National Guard, and 30 years as an experimental test pilot with McDonnell Aircraft Company before appearing here as the first DOT&E. I have remained actively engaged in testing since leaving the Pentagon.

First, I want to congratulate you. From my point of view, this is the most significant test and evaluation legislation since 1983, when Congress, and many of the people that are on this committee, established the position of DOT&E. It addresses longstanding problems identified more than 30 years ago by the President's Blue Ribbon Defense Panel, problems that have been underscored by dozens of studies and reports ever since, including the 1999 and 2000 reports of the Defense Science Board Task Force on Evaluation and the DOT&E's Annual Report for Fiscal Year 2001.

This morning I will comment on the findings, the recommendations of these studies, the proposed legislation, the current state of the Department's test and evaluation facilities, and the basis for the DSB task force findings. From my point of view, the committee's recommendations to establish a Department of test and evaluation resource enterprise is a most important part of the proposed legislation for several reasons.

The current funding for essential maintenance and modernization of the test infrastructure is inadequate. We recognize this, and we understand why. We recognize this to be the services do not make the required investment in test resources because test and evaluation competes with service programs, which has been mentioned more than once this morning. The result is that over a period of decades, service-managed and funded test and evaluation facilities have deteriorated to the point where they cannot support adequate testing of today's systems. These facilities are not able to support adequate test and evaluation of new, emerging, and leap-ahead systems without prudent investments in modernization. We did not say large, we said prudent investments in modernization.

The enterprise envisioned in this modernization will consolidate funding and modernize the infrastructure by looking across the Major Range and Test Facility Base and making the best investments for all of DOD. The net result is, all the services will get the affordable test resources and facilities that they need for adequate joint testing of their current and future weapons systems.

As proposed in the DSB report, in addition to consolidating the funding, the enterprise will manage these test ranges and test facilities through a board of directors with representatives from the

MRTFB, the military people from the MRTFB. This management plan has been discussed, debated, and validated, and is a major part of the implementation. Essentially, it requires members of the test community from the various major ranges and test facilities to participate effectively in managing the test resource allocation and investment.

Some will likely argue that the Office of the Secretary of Defense is just taking away resources from the services and building another bureaucracy. The reality is, test ranges and facilities will be better-funded, and they will be intimately involved in the decision as to how the money will be spent. As a result, a service program manager will have the entire national range complex restored and available for testing, not a single service capability and, most importantly, there will be accountability and sunshine on the process.

When this administration took office, the defense transition team asked me to help two members of the team who had already read the DSB 2000 report on test and evaluation capability. They said Secretary Rumsfeld wanted a DOT&E that could implement the DSB recommendations, and he, the Secretary, believed Tom Christie was the best candidate. Tom did not ask to be the DOT&E. He had been watching it for years, and knew that that was not a smart thing to do. He became a candidate only because the transition team convinced him that he was the only one that could effectively implement the DSB recommendation that he helped author. He has continuously avoided any activities or expression that would suggest that he is personally seeking additional funding for his own organization. The transition team then recommended that Mr. Christie appoint a team of outside experts to write an implementation plan. I ended up in the same position as Tom, not ever expecting to have to do any of this, but I was asked to lead this team.

We wrote and delivered a comprehensive implementation plan and schedule. We recommended a unified concept like the concept in the DSB report, giving prominent roles to the technical directors in the field. The implementation plan includes a financial accounting system that will enable the Department to manage and report to Congress the actual cost of testing for the first time in the history of the Department.

During the course of the 2000 DSB study, we considered many sources of information, the findings of the DSB 1999 study, as well as data and insight, equally as important as the data, gathered at on-site visits to nearly all of the test evaluation facilities across the United States, and extensive briefings from all DOD test and evaluation organizations, the DSB task force findings, and the implementations team.

Recommendations are grounded in reality, and build upon a solid foundation of personal and historical experience data and analysis. Tom Christie and I served on both the 1999 and the 2000 DSB task forces. We went everywhere. We heard every word that has ever been written about testing, believe me.

In closing, I want to say that I agree with the committee that our soldiers, sailors, airmen, and marines must have weapons systems that work in combat. Everybody agrees to that. Their lives depend on it. This vital legislation, like your previous legislation that

created the DOT&E, which took a long time, and a big hill to climb, is another critical step toward helping the Department meet its responsibility to adequately test weapons systems before putting them in the hands of our servicemen and women.

I sincerely appreciate the work of this subcommittee and what this legislation will achieve. I will be happy to answer any questions.

Thank you.

[The prepared statement of Mr. Krings follows:]

PREPARED STATEMENT BY HON. JOHN E. KRINGS

Good morning, Madam Chairman, and members of your subcommittee. Thank you for the opportunity to appear before you to discuss my views on the proposed legislation to improve the management of Department of Defense test and evaluation facilities.

I spent 15 years as a fighter pilot in the Air Force and Air National Guard, and 30 years as an experimental test pilot with McDonnell Aircraft Company before appearing here as the first DOT&E. I have remained actively engaged in T&E since leaving the Pentagon.

First, I want to congratulate you. From my point of view, this is the most significant test and evaluation legislation since 1983 when the U.S. Congress established the position of Director, Operational Test and Evaluation. It addresses long-standing problems identified more than 30 years ago by the President's Blue Ribbon Defense Panel, problems that have been underscored by dozens of studies and reports ever since, including the 1999 and 2000 reports of the Defense Science Board Task Force on Test and Evaluation; and The Director, Operational Test and Evaluation's annual report for fiscal year 2001.

This morning, I will comment on the findings and recommendations of these studies, the proposed legislation, the current state of the Department's test and evaluation facilities and the basis for the DSB Task Force's findings.

From my point of view, the committee's recommendation to establish a Department of Defense Resource Enterprise (T&E/RE) is the most important part of this proposed legislation for several reasons.

The current funding for essential maintenance and modernization of the test infrastructure is inadequate. We recognize this and we understand why. The services don't make the required investments in test resources and facilities because test and evaluation competes with service programs. The result is that over a period of decades, service managed and funded test and evaluation facilities have deteriorated to the point where they cannot support adequate testing of today's weapon systems. Sixty-seven percent of the test facilities are more than 30 years old, and 41 percent are over 40 years old. The recapitalization rate is 400 years! These facilities are not able to support adequate testing and evaluation of new, emerging, and leap-ahead systems without prudent investments in modernization.

The enterprise envisioned in this proposed legislation will consolidate funding and modernize the infrastructure by looking across the MRTFB, and make the best investments for all of DOD. The net result is all the services will get the affordable test resources and facilities they need to adequately and jointly test their current and future weapon systems.

As proposed in the DSB report, in addition to consolidating the funding, the T&E/RE will manage the test ranges and test facilities through a board of directors with representatives from the MRTFB. This management plan has been discussed, debated, and validated, and is a major part of the implementation. Essentially, it allows members of the test community from the various major ranges and test facilities to participate effectively in managing test resource allocation and investment.

Some will likely argue that the Office of the Secretary of Defense is just taking away resources from the services and building another bureaucracy. The reality is test ranges and facilities will be better funded, and they will be intimately involved in the decisions as to how the money will be spent. As a result, a service program manager will have the entire national range complex resources available for testing, not a single service capability. Most importantly, there will be accountability and sunshine on the process.

When this administration took office, the Defense Transition Team asked me to help two members of the team who had read the DSB 2000 Report on Test and Evaluation Capabilities. They said Secretary Rumsfeld wanted a DOT&E that could

implement the DSB recommendations and he believed Mr. Christie was the best candidate. Tom Christie didn't ask to be the DOT&E. Tom became a candidate only because the transition team convinced him that he was the only one who could effectively implement the DSB recommendations he authored. He has continuously avoided any activities or expressions that would suggest he is personally seeking additional funding for his organization.

The transition team then recommended that Mr. Christie appoint a team of outside experts to write an implementation plan. I was asked to lead the team. We wrote and delivered a comprehensive implementation plan and schedule. We recommended a unified concept, like the concept in the DSB Report, giving prominent roles to the technical directors in the field.

The implementation plan includes a financial accounting system that will enable the Department to track, manage, and report to Congress the actual cost of testing for the first time in the history of the Department.

During the course of the 2000 DSB study, we considered many sources of information: the findings of the DSB 1999 study, as well as data and insight gathered during on-site visits to nearly all test and evaluation facilities across the United States; and extensive briefings from all DOD test and evaluation organizations. The DSB Task Force's findings, and the implementation team's recommendations are grounded in reality and built upon a solid foundation of personal and historical experience, data, and analysis. Tom Christie and I served on both the 1999 and 2000 DSB Task Forces.

In closing I want to say that I agree with the committee that our soldiers, sailors, airmen, and marines must have weapon systems that work in combat. Their lives depend on it. This vital legislation, like your previous legislation that created the DOT&E is another critical step toward helping the Department meet its responsibility to adequately test weapons systems before putting them in the hands of our service men and women.

I sincerely appreciate the work of the subcommittee and what this legislation will achieve. I will be happy to answer any questions.

Senator LANDRIEU. Thank you very much, all excellent statements. I really think it is going to get us off to a good start for this discussion. The best news I have heard is that there really does seem to be complete agreement from the Department and from the gentleman that has led this important report. Our goal seems to be the same, to have a system where the incentives are in the right places to do the right things to get a flexible but thorough testing system for our Department of Defense so it can support the best military in the world. To be open to new acquisition strategies, with a testing mechanism that we can be certain we are getting to the warfighter what they need and the taxpayer the best bargain and best investment process, so I am very encouraged by all panelists having that goal. The questions, of course, are going to be about how best to get there.

Second, I want to thank you, Mr. Christie and Mr. Krings, for being very brave, in the sense. I have been in this business now a long time, and it is very rare that you actually see someone that will serve on the committee and then volunteer and go to Washington to try and implement the recommendations of the task force. That alone is worth commending you both for your good work and for stepping forward.

Let me begin by asking if there is—since I heard a consensus of the goal, I want to make sure that we also have a consensus about the depth or the seriousness of the problem, so I am going to ask each panelist if you agree with some of the findings of this report, and I am just going to ask three questions, just answer yes or no.

Mr. Young and Mr. Wynne, do you agree that the infrastructure that has been highlighted in this report is about 400 years, the recapitalization rate is about 400 years, and the architect is about 70

years? Do you generally agree with that assessment of the condition of the testing facility?

Mr. WYNNE. Yes, ma'am. I would only say that is adequate for testing all of the equipment that we have given them, and the funding is proffered when the testing is inadequate, but we are trying to get all of our facilities down to a 67-year recapitalization rate and that is a subject of a separate committee.

Senator LANDRIEU. To a 6 to 7 year?

Mr. WYNNE. 67.

Senator LANDRIEU. 67, down from 400?

Mr. WYNNE. Yes, ma'am.

Senator LANDRIEU. Okay. Mr. Young.

Mr. YOUNG. I do not have the specific numbers, but I would agree with what Mike said, across the infrastructure we have problems. I do not know that the test infrastructure is an anomaly but all of the DOD infrastructure needs to be brought down to, as he said, a 67-year recapitalization rate.

Senator LANDRIEU. Do you agree with the general finding that 66 percent of the Air Force program stopped operational testing due to a major system or safety shortcoming? Do your records reflect that or acknowledge that?

Mr. WYNNE. I would say that comes from the 1990s, early 1990s. It may not reflect what is going on today, but I would say it this way, that airplanes that we deliver to our Air Force go through a thorough scrub, and before any operational characteristics are changed. The stopping or starting of test is a natural fall-out of essentially trying to aggressively meet high-G requirements, high bomb accuracy requirements, and as far as the segmentation into safety versus nonsafety, safety is our first concern, always, and some of those safety aspects you do not run into until you get into a serious operational test, so I cannot agree or disagree that the current stats would mirror or not mirror that number.

Senator LANDRIEU. But in your testimony, and the reason I asked those questions, in both of your testimony you acknowledge that the problems do exist, that you are in the process of addressing them. You seem to acknowledge that the fundamental basis of this report that there are some shortcomings and areas that needed to be addressed, is that correct?

Mr. WYNNE. Yes, ma'am. In every aspect of the management of our government we can identify those areas where we can improve, no doubt about it.

Senator LANDRIEU. Mr. Christie, let me ask you, since you have had a long experience in this field, what do you think the chances are that you would be able to get an agreement with the Department on some of the issues that you have acknowledged, either with or without this legislation? If we did not push forward with some of the pieces or all of the pieces in this legislation, what do you think the impact on the test and evaluation will be in 2 or 3 years?

Mr. CHRISTIE. As I said, I think we have made some progress. The waivers process is, in fact, one that we have addressed within the building, and the United States Navy, which was identified as the culprit, as I recall, in the report has, in fact, changed the process—we are talking about waivers now of testing requirements, not

waivers of operational requirements per se. When we have a requirement, an operational requirement that is on the books, we should at least gather data that permits one to evaluate whether we are effective in meeting that requirement. The Navy has changed their process with respect to that.

As far as 2 or 3 years from now, the sooner we get underway with making some of these changes, and I think a very important issue is the institutional funding——

Senator LANDRIEU. The funding piece. The waivers we seem to be making progress on.

Mr. CHRISTIE. Yes.

Senator LANDRIEU. It's the funding.

Mr. CHRISTIE. The funding piece is another issue. There has been some progress there as far as proper institutional funding, but I am not about to say that it would solve the problems that I think were highlighted in that DSB report. The services have competing requirements when they put their POMs together and their budgets together, and I understand that, but that has led to problems with the ranges and our ability to conduct adequate tests over the years, and continues to do so.

Senator LANDRIEU. On the funding issue, and I cannot find the exact statement, but I remember reading about the—here it is. On that issue, because we seem to acknowledge that funding and the—usually competition is good, but I am not certain in this particular instance this competition between acquisition and testing is very helpful and that is one of the issues we are trying to focus on, but according to the budget request this year, the Army proposed not to increase its testing and evaluation, but to decrease it from $128 to $123 million. The Navy did not, even with this report and even with the work, offer to increase its testing, but it decreased from $123 to $118 million, and the Air Force did the same, from $125 to $90 million, so the words about the importance of testing, that we are underfunded and we need more money, do not seem to be reflected in the budget, so the amount of funding is a problem, but also the system that we have funding competing with acquisition seems to be a problem.

Mr. Krings, one more question and then I will turn it over to my colleagues. You spoke very passionately about this subject. I am always impressed with people who seem to come to the table with a lot of direct experience. What, in your experience as a fighter pilot, or in your association with the contractor that you worked for, led you to be interested in this, and why you think it is so important that this subcommittee really try to work with the Department and the services to try to come up with a better system?

Mr. KRINGS. I think most of my passion for this particular effort came when I was the DOT&E. I naively came to this job—and Senator Bingaman may remember. I suggested at one time during my hearing that maybe we would just put a DOT in for a couple of years, and everybody would straighten out, and then we could walk away and everything would work well. Well, I got a lot of ridicule about that. It is more like straightening teeth. You take the wires off and they go right back where they were again.

So I did not realize at that time that the competition that exists between the services—which is good at times. I am not arguing

with that, but in this particular case it does seem to me that the ownership, and making a national range, would benefit everywhere. We do have, as we speak today, significant limitations due to resources in the major programs that are going on.

I just did two Red Team reviews for the Air Force on the F–22, and we have significant problems in the F–22 in terms of resources. We can only shoot one Advanced Medium-Range Air-to-Air Missile (AMRAAM) a month in this country. That is kind of hard to imagine, but that is because it is not a national basis. So when we began to see unified and joint operations and we said we are going to train like we fight, meaning we are going to train jointly, it seemed natural to say we are going to test like we fight, which means we would test jointly, and the concept of a national range, people putting things together and not duplicating things, it just—the more you look around, if anyone in this room went on the trip that we went on, the same result would come up. You do not really have to have all that experience. You can see it. They will tell you that when you go out and talk to them.

So this is a response from the people who have to do the job every day, as opposed to those who might sit back here and think they know how to do the job every day, and one gets rather passionate when you see things not being done well, and the ability to fix it is there.

Senator LANDRIEU. My time has expired, but this subcommittee under Senator Roberts' leadership has done a great job in trying to focus our efforts toward jointness, toward working together, recognizing that competition is good, but cooperation is also very good, and the sharing of resources, minimizing cost, and maximizing the result, so I hope that this hearing will be helpful to us. We have already identified some pieces of the legislation that we could agree on, some that might need additional work, and I look forward to working with Senator Roberts to try to present to Congress something that will be really beneficial and continue to move us toward a reform system.

Senator Roberts.

Senator ROBERTS. Thank you to my colleague and my chairman.

Are you a chairlady or chairwoman or chairperson——

Senator LANDRIEU. I answer to just about anything, as long as you call me and do not forget me.

Senator ROBERTS. I thank my friend.

Senator LANDRIEU. Good.

Senator ROBERTS. Mr. Young, the chairman indicated the service requests, which were somewhat under last year's, and it occurred to me that all of your testimony reflects a lack of funding. We are pretty good at pointing fingers at the services, and at people like yourself, but Congress has not always been very supportive of fully funding the test and evaluation infrastructure, and I know this has been a problem in recent years. What has been the impact of that?

Mr. YOUNG. Sir, if you will allow me the privilege of sitting on your side of the table for a minute, because in working for 10 years for the Senate Appropriations Committee I was part of making recommendations to the committee and reviewing the budget. I think those processes have had a significant effect on the test ranges,

and the Department as a whole does not want to put money at risk when they ask for money.

For example, in fiscal years 1998, 1999, and 2000, funds for the Navy and Air Force test ranges, the MRTFB funds that sustain those ranges were cut $15 to $25 million each year. At that point, the Department tends to get very concerned about making sure they can totally defend the budget request. The services tend not to put resources into activities that Congress reduces year after year. However, I can tell you the Army T&E lines in total grow about 13 percent over the FYDP, the Air Force lines grow 25 percent over the FYDP, and the Navy lines stay paced just ahead of inflation.

The chairman talked about a couple of specific lines, but there are three or four lines that pay the bills to operate the ranges, then there are a couple of lines that modernize the ranges and those modernization lines do fluctuate, depending on what equipment you need to buy for a range at a given time. However, on the whole, the trend is that we have lost money, if you will, over the last several years on the Hill, and the Department currently has a budget which reverses that trend to a pretty good degree, and we are defending those moneys aggressively.

Senator ROBERTS. I am tempted to ask you about the attitude of some of the appropriators, but I will not put you on the spot.

Mr. YOUNG. They are excellent people, sir. [Laughter.]

Senator LANDRIEU. Please do not get us in any more trouble than we are already in.

Senator ROBERTS. In the House of Representatives, in which I used to serve, there were times that I felt there should be a hunting season for appropriators. I love appropriators in the Senate. I carry their bags, I press their ties, I clean their windows.

Senator LANDRIEU. He does not realize I am now one, an appropriator, you see. I am taking this back.

Senator ROBERTS. Yes, that is one of the reasons I am saying this. [Laughter.]

We will talk to Ted and Danny and see if we cannot make some improvements.

I have a question of Mr. Christie, 16 of 25 is pretty good. I might add that Kobe Bryant did not hit that many last night, but maybe Michael Jordan—but at any rate, many are called and few are chosen, and I want to thank you for your willingness to take up a position of responsibility where you had been in the advice category—and I am desperately looking here for your statement.

On page 9, "So what we may have here is a difference in schedule for transformation, not necessarily one of different goals. Addressing an issue does not necessarily mean the Department will come up with a solution, much less one that matches the DSB, or proposed legislation which I have said follows the DSB recommendations very closely. Nevertheless, the direction the Department is taking is an acknowledgement there is a problem and improvement is necessary. You have my commitment I will find an appropriate solution." I want to thank you for that statement.

Then you also said on page 11, "A review of the legislation shows it to match the DSB recommendations in many respects. However, the legislation could cause us problems. The Department desires

the opportunity to discuss the proposed Senate legislative objectives internally, as well as with your committee. We believe that together we can develop a plan. . . .” Which is the suggestion of the chairman, and I think is a good suggestion, so I thank you.

Let me ask you the question. You stated in your annual report that the organizational and the budgetary recommendations in the DSB study are needed, though controversial, and the Department chose not to implement these recommendations.

Just a real quick summary on why the DOD chose not to implement the DSB recommendation to establish a department of test and evaluation resource enterprise. That is quite an acronym mouthful. That is DTE—never mind.

Mr. CHRISTIE. Well, the biggie, which is the DOD test and evaluation enterprise, was, in fact, brought before the Senior Executive Council, which consists of the three service secretaries, the Under Secretary of Defense for Acquisition, and is chaired by the Deputy Secretary. All major decisions policywise as well as many of the major budget decisions are, in fact, put in front of that group.

I and Jack Krings here, who had developed the implementation plan, had the honor of presenting our proposal to that group, and met with, not surprisingly, opposition from the services. That was expected, and we have heard Mr. Young in particular discuss that today—why the services feel so strongly about this.

What happened, this was in mid-August, mid to late August——

Senator ROBERTS. Of last year.

Mr. CHRISTIE. The decision was sort of, kick the can down the road. It was clear the services were adamantly opposed. There was no decision made, and we will come back and talk about this at some future date, and then September 11 came, and there was no further serious discussion again of this issue before the end of the year.

The fact that the issue is still there in the context of more adequate T&E, to include possibly this way of doing business, is borne out by some of the direction that I talk about in my statement that appears in the planning guidance. That is for 2004, but that is another year. The planning guidance says, let us develop a strategic plan to address these issues and include it in next year’s budget.

Senator ROBERTS. One of the suggestions I am going to make, and I would inform the chairman, instead of 2004 we do it in 2 weeks. In other words, that you get back to us in 2 weeks, more especially Mr. Wynne and others, to recommend what you could live with, how you could implement this legislation, making some suggestions. I realize that 2 weeks and 2004 is a little bit off, to say the least, but I think since the legislation is in the mark, and since it will be on the floor—it is not on the House side, but we would rather work with you to see if we could come up with some reasonable agreement, if we possibly can.

Elliott Cohen said in this month’s Foreign Affairs, and yet the Predator, the UAV, one of the technological stars of Afghanistan and Kosovo, was judged not operationally effective or suitable by the Pentagon’s Office of Testing and Evaluation in 2001 and this determination had less to do with the qualities of the Predator than it did with the extraordinary standards for effectiveness set by the Department. It was a classic case of impossibly demanding

requirements causing the Pentagon to disparage its own systems, creating pressure to defer adequate acquisition of what is good today in a perpetual quest for the extraordinary system that will do anything and everything tomorrow.

How true is that statement?

Mr. CHRISTIE. Well, let's address the Predator. Yes, we evaluated that system against the stated operational requirements on the part of the United States Air Force, and in fact there was an article yesterday in the Aerospace Daily—I think it was yesterday or the day before—that discussed the two recent crashes and the board that had investigated them. They found two causes for the crashes, a different cause for each accident.

The first one was—the system I think was operating in weather—that the deicing system had not worked. That also was pointed out in our report.

The second cause was that the hand-off between systems was not executed properly. In fact, during the operational test, because they could not execute that, they did not test that aspect, in other words, handing off from one Predator to another. I think that article states that both of these deficiencies were highlighted in the DOT&E report. In summary, it did not meet its operational requirements as spelled out in the operational requirements document.

This is not to say we should not have deployed it. I am not saying that.

Senator ROBERTS. Right, exactly. That is the point I am trying to make.

Mr. CHRISTIE. You still have a capability there, but it is not what we thought we bought, or what we stated it should have been doing.

Senator ROBERTS. There is nothing like a war to make you change your mind.

Senator LANDRIEU. That is true, but I want to interject, if I could, as is my liberty as chair, to say that a solution, or one of the keys that we want to get to is, if you knew it did not pass the deicing test, and it went into the battlefield, you should not have flown it in ice.

Mr. CHRISTIE. I do not know that it flew in ice, but it is very likely it did.

Senator LANDRIEU. Or whatever. I mean, if that was the problem. I do not know if that was the problem. It is not a question of whether you deploy it and keep it in the shop or send it to the battlefield, but the system, or the testing is such that the information is passed from the test to the battlefield, so if it did not pass the test, not to push the equipment so you hopefully save lives.

Mr. WYNNE. Madam Chairman, actually you do push it. Actually, because you think it may work, and you need that capability, and the effect is dramatic, and in fact we have not lost that many Predators in this engagement that would not allow us to push the envelope, and I do not know about this particular instance, about the heaviness or the lightness of it, but in fact in every engagement like this, even with the results of these two fine gentlemen, we would push the system and expect to push Predator almost to the limit.

Senator ROBERTS. For a command decision, if you have a very important mission, you are going to push the envelope. You are going to fly the bird. I mean, after all, it is unmanned. Albeit, you do not want anything to go wrong with it, but it would depend on the mission and the command.

Actually, my question was, is there a danger that rigid test criteria imposed by Congress, or internally at DOD, could harm major systems acquisition reform by making spiral acquisitions in the development of fieldable prototypes just as burdensome as the current process?

Mr. CHRISTIE. I do not see that happening, in fact. My job is not to tell the Secretary of Defense or the operational commanders that they should or should not deploy a system, or should or should not buy a system. But, if the service, in this case the United States Air Force, says this is what this aircraft or this particular system is supposed to do, and spells that out very explicitly, then we should test against it, and if it fails, that should be reported, and then the decisionmaker makes his decision.

Like Mike says, they may have decided, and did, that has capability that we need there. I think we will have the same situations arise in spiral development. We will test the system—in fact, establish criteria—and then test against them, and we will report the results.

Mr. KRINGS. As a professional long-term envelope-pusher, we never recommend that the field go beyond where the testing has been, because there may or may not be a cliff there. There may be a gentle slope. The fact that it is unmanned really does not make much difference, because there are often people on the ground, or people relying on that, and I do not think that is done very often, certainly not successfully very often

So consequently you are absolutely right, we do not always get all the testing done, but the key is to tag it and say what it can do, what it cannot do, do not go past here because we do not know what the results are, and we put many things into the field and should and would, and will continue to, before they are fully developed, or before they are fully tested, but we have to put a tag on there about what has been done and what has not been done so that the CINC or whoever is operating it——

Senator LANDRIEU. Can make an informed decision.

Mr. KRINGS. Sure.

Mr. WYNNE. I have tremendous respect for both Tom Christie, who I have admired for a long time, and Jack Krings, who I have admired for a long time, and has been of enormous assistance to me in the past.

I will say only that we rely on the personalities that are sitting at this table to be rational, but this legislation unbalances the balance that is currently in the acquisition, and in a different setting at a different time the DOT&E could force the Secretary or Deputy Secretary in each occasion to make a determination, and I just think that that burdens the Secretary and puts the system at risk, if you will, for schedule and for delivery to our soldiers, so I do share Senator Roberts' opinion on that.

Mr. YOUNG. Can I make one brief comment? The requirements process we have talked about is not a science. We do our best to

set the requirements, but I think if I understood Senator Roberts' comment we do in the end want to get systems in the field. It is very painful when the experts here at the table say a system is not operationally effective and suitable, but in the case of Predator it has proven to be operationally useful, if I could use that word. I think you have seen some writings of Admiral Blair and other people, that say they want systems, especially systems that are not directly putting people's lives in danger out there in the fleet as soon as we can provide them.

For example, there is electronic warfare software that is being developed for surface ships rode on the Anzio the other day. We want to deploy it as fast as we can. It has not been operationally tested, but it would be a tragedy if we do not get it in the hands of the fleet as soon as possible. So we do have to look at adjusting the test process to get systems in the hands of users, assess them fairly, and recognize that the requirements process is not a science. We may get close but not over the bar, and yet close was darned good when you need it in Afghanistan.

Senator LANDRIEU. Okay. Senator Bingaman, and we are going to have a vote in a few moments, but my intention is to finish this round of questioning and then probably go vote, and wrap up before we go vote.

Go ahead, Senator Bingaman.

Senator BINGAMAN. Thank you very much. My concern on this is the current situation, which we have had, really, since I have been here—I have been on this committee now 20 years, and I think that the situation has deteriorated as far as investments during that time, investment in our test facilities.

The way I am thinking about it—and this is to paraphrase some of the testimony you have already given here, but just to see if I have got it right—there is a disincentive on the part of the services to invest in testing, in resources, and in facilities. You say in your testimony the services do not make the required investments in test resources, and so the test and evaluation competes with service programs. Does anybody disagree with that?

Mr. WYNNE. Sir, there is competition throughout. We just cannot buy everything that is asked for.

Senator BINGAMAN. I understand, but it seems to me there is always a stronger push for the programs than there is for the testing facilities that have a more general purpose. That causes the testing facilities to ratchet up their costs, because they have to find resources somewhere. They add more and more overhead to the cost of doing tests. That creates a further disincentive on the part of the services to use those facilities, so there is a reluctance to test, which is an end result of the process.

Unless we can find a way to ensure that adequate funding goes into the infrastructure for this test and evaluation function, then we cannot break out of this downward spiral, as I see it, and I think that is what we are trying to do in this legislation.

I do not know, the only alternative I have heard is that we are going to do better by trying to get some resources to these, but I did not really hear that from you, as I understood it. Your comment was that the resources are about where they ought to be.

Mr. WYNNE. Sir, I would say that the way the President's budget and the 5-year defense plan lays out, the resources going into the test and evaluation line are increasing over time. One of the comments I would make is, this addresses one part of the test facilities. Secretary Young addressed the other developmental tests. My partner here, Mr. Christie, also addressed the developmental test issues. That is not covered by this legislation, so that it would create another tension and imbalance in, maybe, that distribution of investment as well.

Senator BINGAMAN. Let me ask both Mr. Christie and Mr. Krings to just comment on whether they think an imbalance is created by trying—as I see what we are trying to do in this legislation, we are trying to cordon off a certain amount of resources and say, this should go to basic infrastructure so that these test facilities do not have to add so much overhead to the cost of doing test for the services, so that we do not have the disincentive on the part of the services to do the testing.

Does that not make some sense, Mr. Christie?

Mr. CHRISTIE. Of course, and I am a big supporter, and one of the big recommendations in that report is to emphasize more the institutionalized funding of these facilities—and the facilities are not just hardware or buildings, they are people also, a big part of that. The disincentive we are talking about is, as those dollars have gone down for these test facilities, they have had to charge an increasingly large share to the programs, the acquisition programs, for their testing. The acquisition programs have had to pay for a growing share of the overhead costs, and that, to me, is the disincentive for testing.

Now, on the front end of that, how much money goes into those accounts, I do not know that there is a disincentive on the part of the services to fund those accounts. They compete with not just the acquisition programs, but with operations and maintenance and so forth, and yes, I want to see more money into the institutional funding, such that the programs do not have to pay that increasing share.

With all due respect, what is in the FYDP I think, is growth in the outyears, but we never get there.

Mr. KRINGS. Also, just to make something clear, we are talking about the resources and facilities, not the act of testing, or the act of evaluation. It is clearly done by the services, but what happens—and all testing is done with these facilities, development testing, research testing, operational testing. It is not just operational, all testing is done there, so all communities that test.

Interestingly enough, a lot of allies come over and test in these facilities, because we have the best in the world, so everybody pays for this. The key element is, though, like the B–2 program, a significant cost in the B–2 test program was building South Base, a hither to classified test facility. That is a lot of money.

So if you need something in your program and it is not there, guess who gets to pay for it, your program, so that takes money away from testing. You then have test problems, which stretch out your testing, and the next thing, there is not enough money to get the testing finished, and we have many programs today, as we speak, that are in exactly that same position. They have had to

take money that was allocated for testing, and use it to build infrastructure because it was their turn, and it was not there, and they need it, and they need to get the job done, so it is not uncommon.

Senator BINGAMAN. I will stop with that, Madam Chairman. Thank you.

Senator LANDRIEU. Thank you. We have been joined by Chairman Levin, and I believe he has a few questions, and we are very happy, Mr. Chairman, that you have joined us for this important hearing. I said when you came in we have gotten some groundwork covered in this hearing, and there seems to be some consensus about our legislation, but still some areas of disagreement, and we are hoping to work through them.

Chairman LEVIN. Thank you very much, Madam Chairman, and thank you for this hearing. It is a very important subject that may seem dry or arcane or complex to a lot of people, but there is an awful lot riding on it, and I just want to congratulate you, Senator Bingaman and others who have worked so hard on this issue. I know Senator Roberts has a great interest in this issue, and hopefully we will be able to maintain the thrust of this language and do whatever revisions are appropriate, but to keep the thrust of what we are trying to do here.

I want to just briefly read the paragraph in the Defense Science Board's task force on the test and evaluation facilities, and I do not think this paragraph has been read yet this morning, and here is what it says, and of course, Mr. Krings is here this morning to represent the Defense Science Board's report.

"The unwillingness of the services to provide adequate resources for T&E, while still maintaining substantial redundant capabilities, suggest that a change is needed. The current funding structure of the Department's T&E facilities does not lead to long-range business planning, and it is not possible for them to make investment decisions based on future utilization or a business-like return on assets analyses.

Centralized, consolidated management of T&E facilities within the Department of Defense could overcome many of these serious problems. A defense T&E resource enterprise evolved from a central test and evaluation investment program will significantly improve DOD testing by optimizing test resource investments and streamlining the management of these vital assets, including both personnel and facilities."

So my question is of Mr. Christie, who was a member of that task force, as to whether he agreed with the task force's findings and recommendations regarding the establishment of a T&E resource enterprise at the time the report was written.

Now, I am also going to ask you what your current view is on it, but at the time the report was written, did you agree with that report?

Mr. CHRISTIE. Of course. I was part of the study, and I agreed with that.

Chairman LEVIN. Now, do you agree with those findings today?

Mr. CHRISTIE. Well, I am not disavowing those findings. I am living in a different world today, and I have to adhere to decisions that are made in the building, which I am doing, but I helped author that report, and certainly agree with the findings.

Chairman LEVIN. Thank you.

Senator LANDRIEU. Thank you, Mr. Chairman, for coming. The vote has been called, and I am going to suggest that we just give summary remarks and then close this hearing. I think it has been very helpful and, as you can see, there are many members of our committee that feel strongly about acknowledging that the status quo is just not going to do. I mean, there are clearly some places that need significant improvement, and I do believe that this legislation helps us to move in that direction. If there are places that are imperfect, or some language that we could modify to meet some of the comments made this morning, I am open to it, but I wanted to see if Senator Roberts had a couple of suggestions, too, and then we will try to close up.

Senator ROBERTS. I was going to ask for the record—and I am just going to make this statement, and perhaps Mr. Wynne you can get back to me, or Mr. Young, and Mr. Christie. What would be the impact of the proposed legislation on planned or ongoing testing of existing programs, and the ones I picked pretty well track what we are into in regards to transformation and the war on terrorism, and the asymmetrical threat that we face, such as, for example, the Air Force's joint strike fighter, the Navy's cooperative engagement capability, the V–22 Osprey for the Marines, and the Army's Comanche attack helicopter. What parts of the T&E infrastructure are critical to effectively test these programs?

[The information referred to follows:]

Mr. WYNNE, Mr. YOUNG, and Mr. CHRISTIE. The following are examples of major Air Force, Marine Corps, and Navy programs that are under development and the DOD test and evaluation facilities and ranges that are being used to support the programs. Also provided are comments on the potential impact of the Senate's proposed legislation regarding the management and funding of the Department's test facilities and ranges.

MAJOR SYSTEM—JSF

1. Major System—Air Vehicle/Air System
   A. Contractor Test Facility
      LM Aero Ft Worth, TX
   B. Government Test Facilities
      NAWC–AD Patuxent River, MD
      NAWC–AD Lakehurst, NJ
      Eglin AFB, FL
      AFFTC Edwards AFB, CA
   C. Government Test Ranges
      NAWC–AD Patuxent River, MD
      AFFTC Edwards AFB, CA
      NAWC–WD China Lake, Pt Mugu, CA
      Nellis Test and Training Range, NV
2. Major System—Propulsion
   A. Contractor Test Facilities
      Pratt and Whitney West Palm Beach, FL and East Hartford, CT
      General Electric Evandale, OH and Peebles, OH
   B. Government Test Facilities
      AEDC Tullahoma, TN
      NAWC–AD Patuxent River, MD
      AFFTC Edwards AFB, CA
      NAWC–WD China Lake, Pt. Mugu, CA
   C. Government Test Ranges
      NAWC–AD Patuxent River, MD
      AFFTC Edwards AFB, CA
      NAWC–WD China Lake, Pt Mugu, CA
3. Major System—Mission Systems*
   A. Contractor Test Facilities

Northrup Grumman El Segundo, CA and Baltimore, MD
LM Aero Ft Worth, TX
BAE Systems—Sanders Nashua, NH
LMMFC Orlando, FL
Boscombe Down, UK
B. Government Test Facilities
Wright-Patterson AFB, OH
NAWC–AD Patuxent River, MD
NAWC–AD Lakehurst, NJ
AFFTC Edwards AFB, CA
Rome Labs, NY
RFSS Redstone Arsenal, AL
NWSC Crane, IN
Holloman AFB, NM
NAWC–WD China Lakc, Pt Mugu, CA
C. Government Test Ranges
NAWC–AD Patuxent River, MD
AFFTC Edwards AFB, CA
NAWC–WD China Lake, Pt Mugu, CA
Nellis Test and Training Range, NV

*Mission Systems includes radar, electronic warfare suite, distributed aperture system, electro optical targeting system, communication, navigation and identification subsystems, cockpit systems, and armament.

4. Legislation Impact

A funding reduction of $123 million (i.e., 0.625 percent of $19.7 billion) across the FYDP would reduce funding below OSD directed levels, increasing risk in execution of the JSF program and potentially resulting in schedule delays. Furthermore, funding reductions would deviate from agreements with JSF international partners.

MAJOR SYSTEM—V22

1. Major System—Air Vehicle/Air System
A. Contractor Test Facilities
Boeing Company Rotorcraft Division, Philadelphia, PA
Bell Helicopter Textron, Ft. Worth, TX
Bell Helicopter Textron, Amarillo, TX
B. Government Test Facilities
NAWCAD PAX River, MD
E3 and lightning facilities, PAX River, MD
Edwards AFB, CA (MOB)
NSWC Dahlgren, VA
Climatic Lab, Eglin AFB, FL
NASA Lewis Research Eacility, OH
C. Government Test Range
Atlantic Test Range
Ft. Huachuca, AZ
MCAS Quantico, VA
MCAS New River, NC
MCAS Cherry Point, NC
MCB Twenty Nine Palms, CA
Pope AFB, SC
Ft. A.P. Hill, VA
National Guard Base, Duluth, MN (U.S. Army AQTD)
D. Foreign Government Bases and Ranges
Canadian Forces Base, Shearwater, Nova Scotia, Canada
2. Major System—Propulsion
A. Contractor test Facilities
Rolls Royce Corporation, Indianapolis, IN
B. Government Test Facilities
Naval Air Propulsion Center, Trenton, NJ
3. Major System—Mission Systems
A. Contractor Test Facilities
Boeing Company Rotorcraft Division, Philadelphia, PA
Bell Helicopter Textron, Ft. Worth, TX
B. Government Test Facilities
NAWCAD PAX River, MD
ACETEF, PAX River, MD
E3 and lightning facilities, PAX River, MD

Manned Flight Simulator, PAX River, MD
Edwards AFB, CA (MOB)
Benefield Anachoic Facility, Edwards AFB, CA
Avionics Test and Integration Complex, Edwards AFB, CA
NAWCAD Indianapolis, IN
NAWCAD, Lakehurst, NJ
Air Force Electronic Warfare Evaluation Simulator, Randolph AFB, San Antonio, TX
Flight Taining Device, New River, NC
NSWC Dahlgren, VA
Pt. Magu, CA

C. Government Test Range
Atlantic Test Range
Nevada Testing and Training Range, NV
Utah Test Range, Hill AFB, UT
White Sands, NM
NAWC, China Lake (Echo Range), AZ
Eglin AFB, FL
MCAS New River, NC
MCAS Yuma, AZ
MCAS Cherry Point, NC
Marine Corps Mountain Warfare Training Center, Bridgeport, CA
MCB Twenty Nine Palms, CA
FAA Tech Center, NJ
Ft. Sumner, NM (MOB)
Ft. Bliss, TX
Nellis AFB, NV
Eilson AFB, AK
Robins AFB, Warner Robins, GA

4. Legislation Impact

Design, development, and test for resolution of discrepancies in the V–22 program are funded in the restructured program in accordance with Blue Ribbon Panel recommendations. Preservation of this budget is necessary in order to maintain the recently approved restructured program. A reduction of RDT&E in fiscal year 2003 will necessarily result in extending the program. There is no assurance that the redistribution of these funds among test facilities and ranges will directly benefit the V–22 program in such a way to mitigate the impact of loss of funs.

MAJOR SYSTEM—COOPERATIVE ENGAGEMENT CAPABILITY (CEC)

1. Contractor Test Facility
Raytheon, St. Petersburg, FL

2. Government Test Facilities
NSWC Dahlgren, Dahlgren, VA (software)
NSWC Crane, Crane, IN (hardware)
Distributed Engineering Plant (DEP) (interoperability)

3. Government Test Ranges
Atlantic Test Range, NAWC—Air Division, NAS Patuxent River, MD
Atlantic Fleet Weapons Training Facility (AFWTF), Puerto Rico

4. Legislation Impact

Post-OPEVAL, the vast majority of CEC testing will be conducted underway in Navy Operating Areas. CEC will not be a heavy user of Government Test Ranges. Therefore, the impact of this legislation would be the diversion of funding from the CEC Test and Evaluation effort to fund the Military Test Range Infrastructure. As a result less funding would be available to test and evaluate CEC, thereby increasing the risk to successful Milestone Decisions and potentially delivering a less effective and suitable system to the warfighter.

Senator ROBERTS. I do not want you to answer that now, but if you could get back to that it would be helpful, and I am going to make a suggestion, since we have a vote on, that perhaps, Mr. Wynne, you could get back to us within a 2-week time frame on some recommendations on how you could live with and implement the legislation that has been authored by the chairman, and I think we all agree we support the goals without question, and work with Mr. Christie and see if you could come up with some legislative recommendations.

Mr. WYNNE. I would be happy to do that, Senator, and in fact what I would also offer is that we should do a study on whether the service MRTFB, which is the major test ranges, are, in fact, paying the operating costs, and whether the programs when they come in are being unfairly dinged.

My assumption here is that even if I centralize all of the facilities, if I were to have a unique requirement, such as the B–2 range construction referred to by Mr. Krings, the program would still be charged for that unique requirement, because the central fund will not forecast future unique investment needs. It just cannot, because we would not tell them in some cases.

Senator ROBERTS. I think that would be a very important study, so if you can get back to us in 2 weeks, that would be much appreciated, and I for one, Madam Chairman, thank the witnesses for taking time. It is a busy day, it is a busy time, I know you have other things to do, and I want to thank you for your leadership, and more especially you, Mr. Christie, because you have served in an advisory capacity, now you are in the responsibility saddle, and we will look together for a good ride.

Senator LANDRIEU. Thank you all.

Mr. YOUNG. Could I add one comment to something Mr. Krings said?

Senator LANDRIEU. Very quickly.

Mr. YOUNG. There is a central test and evaluation investment program line. It has been there for years. It is managed and run by OSD. It is within the purview of OSD to resource that line to modernize for the good of all programs so I am anxious at the suggestion the services are underresourcing everything. I think the study that Secretary Wynne talks about will show that within a few percentage points the ranges are resourced, and they are appropriately making investments. There is already an existing structure not unlike the proposed legislation for OSD to do central investment for the good of all services.

Senator LANDRIEU. Well, but the problem is, without a constituency those lines are hard to sustain themselves through the process, and that is the system—we are trying to create a system where there is support for a robust, not tightly controlled, flexible, smart, robust testing system that gives our warfighters what they deserve, and we do not have it yet. That is the point of this hearing, to get something that will work.

So thank you all very much.

Mr. WYNNE. Thank you very much, Madam Senator. Thank you, Senator Roberts.

Senator LANDRIEU. We are adjourned.

[Whereupon, at 11:15 a.m., the subcommittee adjourned.]

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